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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,055	10/30/2003	Anders Hebsgaard	BP 1622	7760
51472 7590 11/15/2007 GARLICK HARRISON & MARKISON P.O. BOX 160727 AUSTIN, TX 78716-0727			EXAMINER WU, JIANYE	
			ART UNIT 2616	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/698,055

Applicant(s)

HEBSGAARD ET AL.

Examiner

Jianye Wu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.138(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-6, 8-11, 13-17, 19-22 and 24-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-11, 13-17, 19-22 and 24-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. **Claims 1-26** are rejected under 35 U.S.C. 102(e) as being anticipated by Radhakrishnan et al. (US Patent Number 7,000,021 B1, hereinafter **Radhakrishnan**).

For **claims 1 and 13**, Radhakrishnan discloses a method in claim 1 and a wireless transceiver in claim 13 for transmitting and receiving wireless communication signals (a point to multipoint wireless communication system, lines 10-11 of Col. 1), comprising:

a receiver portion (receiver, line 51 of Col. 4) that receives acknowledge signals transmitted by another device over a wireless medium (lines 18-19, Col. 2); and

a transmitter portion (sender, line 51 of Col. 4), wherein the transmitter portion: forms MAC layer signals according to a DOCSIS protocol (lines 39-40 of Col. 1);

adds, at the MAC layer, an ARQ (ARQ in its MAC layer, line 59 of Col. 1) header containing a sequence number (1308 of FIG. 13) to each of the MAC layer signals;

transmits the MAC layer signals (line 17 of Col. 2, 506 of FIG. 5);

stores the MAC layer signals (Store packet in buffer, 506 of FIG. 5; or lines 52-54 of Col. 4);

deleting a group of stored MAC layer signals after a specified period has elapsed since receiving the acknowledge signal (lines 25-27 of Col. 7; or 714 of FIG. 7); and deletes all stored MAC layer signals if the sequence number identified in the acknowledge signal does not correspond to a sequence number for a stored MAC layer signal (622 of FIG. 6, or 714 of FIG. 7).

As to **claim 2**, Radhakrishnan discloses the method of claim 1 wherein the step of adding an ARQ header includes adding a sequence number (sequence number, line 9-10 of Col 2; or 1408 of FIG. 5) in the ARQ header.

As to **claim 3**, Radhakrishnan discloses the method of claim 2 further including storing transmitted frames until a negative acknowledge signal (acknowledge packet, lines 52-54 of Col. 4) is received (lines 62-67, Col. 4).

As to **claim 4**, Radhakrishnan discloses the method of claim 2 further including receiving a non-acknowledge signal from a receiver, the non-acknowledge signal including a previously transmitted sequence number (lines 52-54, Col. 4; or FIG. 6).

As to **claim 5**, Radhakrishnan discloses the method of claim 4 further including deleting a group of stored MAC layer signals, the group of stored MAC layer signals being a function of a value of the previously transmitted sequence number (lines 52-54 of Col. 4; or 606 of FIG. 6).

As to **claim 6**, Radhakrishnan discloses the method of claim 5 wherein the group comprises all MAC layer signals transmitted prior to the MAC layer signal containing the previously transmitted sequence number (lines 54-60, Col. 4).

As to **claim 8**, Radhakrishnan discloses the method of claim 4 further including retrieving a stored MAC layer signal that corresponds with the previously transmitted sequence number received in the acknowledge signal (lines 60-61, Col. 4; or 902 of FIG. 9).

As to **claim 9**, Radhakrishnan discloses the method of claim 8 further including transmitting the stored MAC layer signal that corresponds with the previously transmitted sequence number received in the acknowledge signal (lines 60-61, Col. 4; or 618 of FIG. 6).

As to **claim 10**, Radhakrishnan discloses the method of claim 9 further comprising deleting (flushing) all stored MAC layer signals that were transmitted prior to the stored MAC layer signal that corresponds with the previously transmitted sequence number received in the acknowledge signal (606 of FIG. 6; or lines 52-54, Col. 4).

As to **claim 11**, Radhakrishnan discloses the method of claim 4 further including determining (confirms, line 56, Col. 4) whether the previously transmitted sequence number identified in the acknowledge signal is corresponds to a sequence number for a stored MAC layer (lines 56-61, Col. 4).

For **claim 13**, Radhakrishnan discloses a wireless transceiver (a point to multipoint wireless communication system, lines 10-11 of Col. 1) for transmitting and receiving wireless communication signals, comprising:

a receiver portion (receiver, line 51 of Col. 4) that receives acknowledge signals transmitted by another device over a wireless medium (lines 18-19, Col. 2); and

a transmitter portion (sender, line 51 of Col. 4), wherein the transmitter portion:  
forms MAC layer signals according to a DOCSIS protocol (lines 39-40 of Col. 1);  
adds, at the MAC layer, an ARQ (ARQ in its MAC layer, line 59 of Col. 1) header  
containing a sequence number (1308 of FIG. 13) to each of the MAC layer signals;  
transmits the MAC layer signals (line 17 of Col. 2, 506 of FIG. 5);  
stores the MAC layer signals (Store packet in buffer, 506 of FIG. 5; or lines 52-54  
of Col. 4); and  
deletes at least one stored MAC layer signal (lines 52-54, Col. 4; or 606 of FIG.  
6).

As to **claim 14**, Radhakrishnan discloses the wireless transceiver of claim 13  
wherein the wireless transceiver stores transmitted frames until a negative acknowledge  
signal (*missing packet*, line 64 of Col. 4) is received (lines 62-67, Col. 4).

As to **claim 15**, Radhakrishnan discloses the wireless transceiver of claim 13  
wherein the wireless transceiver receives and responds to an acknowledge signal from  
a receiver (*acknowledge packet*, line 57 of Col. 4), the acknowledge signal including a  
previously transmitted sequence number (FIG. 6; or lines 56-61 of Col. 4).

As to **claim 16**, Radhakrishnan discloses the wireless transceiver of claim 15  
wherein the wireless transceiver deletes a group of stored MAC layer signals, the group  
of stored MAC layer signals being a function of a value of the previously transmitted  
sequence number (lines 52-54 of Col. 4).

As to **claim 17**, Radhakrishnan discloses the wireless transceiver of claim 16 wherein the group comprises all MAC layer signals transmitted prior to the MAC layer signal containing the previously transmitted sequence number (lines 52-54 of Col. 4).

As to **claim 19**, Radhakrishnan discloses the wireless transceiver of claim 16 wherein the wireless transceiver retrieves a stored MAC layer signal that corresponds with the previously transmitted sequence number received in the acknowledge signal (lines 52-54 of Col. 4).

As to **claim 20**, Radhakrishnan discloses the wireless transceiver of claim 19 wherein the wireless transceiver transmits the stored MAC layer signal that corresponds with the previously transmitted sequence number received in the acknowledge signal (lines 56-61 of Col. 4).

As to **claim 21**, Radhakrishnan discloses the wireless transceiver of claim 20 wherein the wireless transceiver deletes (flushes) all stored MAC layer signals that were transmitted prior to the stored MAC layer signal that corresponds with the previously transmitted sequence number received in the acknowledge signal (606 of FIG. 6; or lines 52-54, Col. 4).

As to **claim 22**, Radhakrishnan discloses the wireless transceiver of claim 16 wherein the wireless transceiver determines whether the previously transmitted sequence number identified in the acknowledge signal corresponds to a sequence number for a stored MAC layer signal (lines 52-54 of Col. 4).

For **claim 24**, Radhakrishnan discloses the fixed wireless device (line 2 of Col. 1), comprising:

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means for communicating over a wireless physical layer (line 10 of Col. 1);

means for communicating over a DOCSIS MAC layer (line 64 of Col. 1); and

means for embedding an ARQ protocol in said DOCSIS MAC layer (lines 64-65 of Col. 1);

means for deleting a group of stored MAC layer signals after a specified period has elapsed since receiving the acknowledge signal (lines 25-27 of Col. 7; or 714 of FIG. 7);

As to **claim 25**, Radhakrishnan discloses the fixed wireless device of claim 24 wherein the means for communicating includes a receiver portion that receives non-acknowledge signals transmitted by another device over a wireless medium and a transmitter portion, wherein the transmitter portion:

forms MAC layer signals according to a DOCSIS protocol (line 64 of Col. 1);

adds, at the MAC layer, an ARQ header containing a sequence number (FIG. 13) to each of the MAC layer signals;

transmits the MAC layer signals (line 17 of Col. 2; or 506 of FIG. 5);

stores the MAC layer signals (lines 52-54 of Col. 4); and

deletes at least one stored MAC layer signal (606 of FIG. 7; or lines 52-54, Col. 4).

As to **claim 26**, Radhakrishnan discloses the fixed wireless device of claim 25 wherein the fixed wireless device stores transmitted frames until either a non-acknowledge signal is received or a timer expires (FIG. 7; or lines 56-58, Col. 4).

***Response to Amendments/Arguments***



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3. Applicant's arguments filed on 9/25/2007 have been fully considered but they are not persuasive. All independent claims are amended. Rejections are updated with respect to the amendment.

4. Applicant states the Remarks/Arguments is to "replay to Office Action dated April 24, 2003" (header part of pages 7-8). However, there is no Office Action dated April 24, 2003. The first Office Action is sent to Applicant on 06/25/07.

5. Applicant's argument to claim 12 (second paragraph of page 7) has no contents. It is not clear what Applicant tries to argue regarding claim 12.

6. Regarding Applicant's argument on claim 1 (paragraph 3-5, page 7):

a) amended claim 1 requires "deleting stored MAC layer signals if the sequence number identified in the acknowledge signal does not correspond to a sequence number for a stored MAC layer signal." Which is not taught by RADHAKRISHNAN;

b) amended claim 1 requires a transmitter that "deletes a group of stored MAC layer signals after a specified period has elapsed since receiving the acknowledge signal". While RADHAKRISHNAN discloses using a specified number of retries, the present claim requires a time period for limiting the number of retries before data packets are flushed or deleted.

In response:

a) FIG. 7 as a whole, particularly 714 by RADHAKRISHNAN discloses flushing outstanding packets if the acknowledge messages do not match the sequence number for stored packets (after a period of time), which reads well with the limitation of "deleting stored MAC layer signals if the sequence number identified in the

acknowledge signal does not correspond to a sequence number for a stored MAC layer signal". Notice that in RADHAKRISHNAN the packets are of MAC layer packets, as stated in col. 3, lines 63-67 by RADHAKRISHNAN.

b) FIG. 7 as a whole, particularly 714 by RADHAKRISHNAN discloses deleting (flushing) outstanding packets if the acknowledge messages do not match the sequence number for stored packets after a period of time (combination of timer in 712 and retry count of 714), which reads well with the limitation of "deletes a group of stored MAC layer signals after a specified period has elapsed since receiving the acknowledge signal". Examiner interprets "a period of time" as the value of timer times count.

Therefore, Examiner maintains the position of rejection on claim 1.

7. Applicant does not make any argument on claims claims 1, therefore, Examiner maintains the position of rejection on all remaining claims.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jianye Wu whose telephone number is (571)270-1665. The examiner can normally be reached on Monday to Thursday, 8am to 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571)272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jianye Wu

11/06/07



CHIRAG G. SHAH  
PRIMARY PATENT EXAMINER